



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named
Inventor : Eric R. Lovegren

Appln. No.: 10/046,647

Filed : October 29, 2001

For : MEASUREMENT OF CONCENTRATION
OF MATERIAL IN A PROCESS
FLUID

Docket No.: R11.12-0763

Group Art Unit: 2883

Examiner: X. Sun

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#91 Response
Answer
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RESPONSE

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I HEREBY CERTIFY THAT THIS PAPER IS BEING
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PATENT ATTORNEY

Sir:

This Amendment is in response to the Office Action mailed on June 19, 2003 in which claims 1-4, 8, 11-14, 18 and 21 were rejected. The remaining claims 5-7, 9, 10, 15-17, 19 and 20 were objected to and indicated as containing allowable subject matter.

In the Office Action, claims 1, 2, 11 and 12 were rejected under 35 U.S.C. § 103 based upon Vestergaard et al. (4,196,385) in view of Scott et al. (5,748,002). Further, claims 3, 4, 8, 13, 14, 18 and 21 were rejected under 35 U.S.C. § 103 as above and further in view of Marrelli (5,763,794). It is believed that the pending claims are patentably distinct from these references. Reconsideration and favorable action are respectfully requested.

As noted by the Examiner, Vestergaard et al. do not describe a microwave pulse nor the use of a time delay of a return pulse to determine concentration of material. Applicant further is unable to identify the use of any pulse within the Vestergaard reference.

The Examiner cites the Scott et al. reference as showing the use of a time delay of a return pulse. However, Scott et al. describes a continuous RF signal. For example, Figure 24 shows a sweep oscillator and a frequency. As discussed in col. 1, line 55, etc. of the Scott et al. reference a "RF oscillator" is used in which the resonant frequency of the oscillator is "pulled" based upon the medium's magnetic permeability. In fact, Scott et al. teach away from the use of pulse based techniques. For example, beginning at col. 8, line 19 through col. 9, line 36, the "disadvantages" of pulse based methods are discussed. The description starting at col. 9, line 37 contrasts the device of Scott et al. with such pulse based methods.

Thus, Scott et al. not only fails to show the use of a pulse generator they actually teach away from such use and suggest that such a generator would be undesirable. Therefore, it is believed that the present invention as set forth in the pending claims which includes a "pulse generator" is not shown or suggested by Scott et al.

Further, the present invention set forth in the pending claims includes determination of product concentration based upon a time delay of a return pulse. This also is not shown in Scott et al. which relies upon the changes in the resonant frequency of an oscillator. For this additional reason it is believed that the pending claims are patentably distinct.

In view of the above remarks, it is believed that all pending claims 1-21 are patentably distinct from Vestergaard et al., Scott et al., and Marrelli. It is believed that the present application is in condition for allowance. Such action is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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